

INTRODUCTORY COMMENTS

Claims 1, 2, 4, 5, 7, 9-12, 14, 16-20, 24-32, 35, 36, 38, and 40-45 stand rejected as unpatentable over Barrett et al., U.S. Patent No. 6,622,038. Claims 6, 8, 13, 15, 37, and 39 stand rejected as unpatentable over Barrett et al. in view of Stein, U.S. Application Pub. No. 2002/0038137.

Claims 3, 21-23, 33, and 34 are objected to but would be allowable if rewritten in independent form.

This first Amendment submitted by Applicants amends claims 3-9, 21, 24-25, 28, 33-43, and 45 and cancels claims 1, 2, 16-20, and 29-32. Claims 3-15, 21-28, and 33-45 remain pending.

Applicants request a three-month extension of time in which to file this paper; authorization to charge the NeuroPace deposit account the required fee for the extension and for any additional claim fees is enclosed.

Applicants submit that the present Amendment and accompanying papers place this Application in allowable condition; accordingly, Applicants respectfully request reconsideration of pending claims 3-15, 21-28, and 33-45 with a view toward allowance.

AMENDMENTS TO THE CLAIMS

Please **AMEND** the claims as indicated in the following listing of claims, which replaces all prior versions:

1. (canceled)

2. (canceled)

3. (currently amended) A method for treating a movement disorder in a human patient with an implantable neurostimulator, the method comprising the steps of:

detecting a physiological condition characteristic of an episode of the movement disorder;

selectively initiating treatment delivery, thereby delivering a therapy from the implantable neurostimulator to the patient in response to the physiological condition; and

ceasing treatment delivery;

~~The method for treating a movement disorder of claim 2,~~ wherein the physiological condition comprises a neurological event, and wherein the neurological event comprises an electrographic oscillation representing a tremor.

4. (currently amended) The method for treating a movement disorder of claim ~~1~~ 3, further comprising the step of synchronizing the treatment delivery to the physiological condition.

5. (currently amended) The method for treating a movement disorder of claim ~~1~~ 3, wherein the therapy comprises an application of responsive electrical stimulation.

6. (currently amended) The method for treating a movement disorder of claim 1 ~~3~~, wherein the therapy comprises an application of responsive drug therapy.

7. (currently amended) The method for treating a movement disorder of claim 1 ~~3~~, further comprising the step of applying programmed electrical stimulation.

8. (currently amended) The method for treating a movement disorder of claim 1 ~~3~~, further comprising the step of delivering programmed drug therapy.

9. (currently amended) A method for detecting an episode of a movement disorder in a human patient, the method comprising the steps of:

receiving a signal with an implantable device, wherein the signal includes information representative of a physical condition characteristic of an episode of the movement disorder;

processing the signal with the implantable device;

analyzing the signal with the implantable device;

detecting ~~an~~ a neurological event in the signal with the implantable device, wherein the event represents the physical condition characteristic of an episode of the movement disorder; and

causing the implantable device to perform an action in response to the event.

10. (original) The method for detecting an episode of a movement disorder of claim 9, wherein the step of causing the implantable device to perform an action comprises initiating treatment delivery, thereby delivering a therapy from the implantable neurostimulator to the patient in response to the physiological condition.

11. (original) The method for treating a movement disorder of claim 10, further comprising the step of synchronizing the treatment delivery to the physiological condition.

12. (original) The method for treating a movement disorder of claim 10, wherein the therapy comprises an application of responsive electrical stimulation.

13. (original) The method for treating a movement disorder of claim 10, wherein the therapy comprises an application of responsive drug therapy.

14. (original) The method for treating a movement disorder of claim 10, further comprising the step of applying programmed electrical stimulation.

15. (original) The method for treating a movement disorder of claim 10, further comprising the step of delivering programmed drug therapy.

16. (canceled)

17. (canceled)

18. (canceled)

19. (canceled)

20. (canceled)

21. (currently amended) A system for treating a movement disorder in a human patient, the system comprising:

an implantable device having a housing defining a control module including electronic circuitry; and

at least one sensor connected to the electronic circuitry;

wherein the implantable device comprises a detection subsystem adapted to receive sensor data from the at least one sensor;

wherein the implantable device further comprises a therapy subsystem adapted to deliver treatment to the patient;

wherein the implantable device is adapted to detect in the sensor data a physiological condition characteristic of an episode of the movement disorder; and initiate treatment delivery, thereby delivering a therapy from the implantable neurostimulator to the patient in response to the physiological condition; and

~~The system for treating a movement disorder of claim 20,~~ wherein the sensor comprises a plurality of electrodes are adapted to receive electrographic data from the patient.

22. (original) The system for treating a movement disorder of claim 21, wherein the electrographic data comprises an EEG signal.

23. (original) The system for treating a movement disorder of claim 21, wherein the electrographic data comprises an EMG signal.

24. (currently amended) The system for treating a movement disorder of claim 20 21, wherein the electrodes are further adapted to deliver therapeutic electrical stimulation to the patient.

25. (currently amended) The system for treating a movement disorder of claim ~~16~~ 21, further comprising an external apparatus.

26. (original) The system for treating a movement disorder of claim 25, wherein the external apparatus comprises a programmer.

27. (original) The system for treating a movement disorder of claim 25, wherein the implantable device further comprises a communication subsystem adapted to transfer data between the implantable device and the external apparatus.

28. (currently amended) The system for treating a movement disorder of claim 46 21, wherein the implantable device is implanted intracranially in the patient.

29. (canceled)

30. (canceled)

31. (canceled)

32. (canceled)

33. (currently amended) A method for treating a movement disorder in a human patient with an implantable neurostimulator, the method comprising the steps of:

detecting a physiological condition characteristic of an episode of the movement disorder, wherein the physiological condition comprises a neurological event;

generating a command signal with a central processing unit of the implantable neurostimulator in response to the physiological condition;

selectively and automatically initiating treatment delivery in response to the command signal, thereby delivering a therapy from the implantable neurostimulator to the patient; and

selectively and automatically ceasing treatment delivery;

~~The method for treating a movement disorder of claim 32,~~ wherein the neurological event comprises an EEG oscillation representing a tremor.

34. (currently amended) A method for treating a movement disorder in a human patient with an implantable neurostimulator, the method comprising the steps of:

detecting a physiological condition characteristic of an episode of the movement disorder, wherein the physiological condition comprises a neurological event;

generating a command signal with a central processing unit of the implantable neurostimulator in response to the physiological condition;

selectively and automatically initiating treatment delivery in response to the command signal, thereby delivering a therapy from the implantable neurostimulator to the patient; and

selectively and automatically ceasing treatment delivery;

~~The method for treating a movement disorder of claim 32,~~ wherein the neurological event comprises EEG activity associated with the movement disorder.

35. (currently amended) The method for treating a movement disorder of claim 31 ~~34~~, further comprising the step of synchronizing the treatment delivery to the physiological condition.

36. (currently amended) The method for treating a movement disorder of claim 31 ~~34~~, wherein the therapy comprises an application of responsive electrical stimulation.

37. (currently amended) The method for treating a movement disorder of claim 31 ~~34~~, wherein the therapy comprises an application of responsive drug therapy.

38. (currently amended) The method for treating a movement disorder of claim 31 ~~34~~, further comprising the step of applying programmed electrical stimulation.

39. (currently amended) The method for treating a movement disorder of claim ~~31~~
34, further comprising the step of delivering programmed drug therapy.

40. (currently amended) The method for treating a movement disorder of claim ~~30~~
34, further comprising the step of generating the command signal in response to a
programmed schedule.

41. (currently amended) The method for treating a movement disorder of claim ~~29~~
34, wherein the therapy comprises an application of an electrical stimulation signal
having a non-pulsatile morphology.

42. (currently amended) The method for treating a movement disorder of claim ~~29~~
34, wherein the therapy comprises an application of an electrical stimulation signal
having a substantially sinusoidal morphology.

43. (currently amended) The method for treating a movement disorder of claim ~~29~~
34, wherein the therapy comprises an application of an electrical stimulation signal
comprising at least one burst of pulses.

44. (original) The method for treating a movement disorder of claim ~~43~~, wherein
the at least one burst of pulses has a beginning and an end, and wherein the beginning and
the end are ramped to avoid sensory effects in the patient.

45. (currently amended) The method for treating a movement disorder of claim ~~29~~
34, wherein the therapy comprises an application of an electrical stimulation signal
having a DC component.